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Case Report

Ischemic Colitis in an Elderly Patient☆

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SUMMARY

Acute abdomen pain refers to a sudden severe abdomen pain that is less than 24 hours in duration and can be caused by ischemic colitis. Ischemic colitis is an ischemic injury to the colon. Most patients affected are elderly with non-specific symptoms and are easily overlooked. We present a case of an elderly female patient with ischemic colitis, who was initially misdiagnosed. An 83-year-old woman had a history of uremia with dialysis, peripheral arterial occlusive disease, atrial fibrillation without medical control, and rectal cancer (post operation of partial proctectomy with right nephrectomy). She visited our emergency room because of acute abdominal pain including bloodied stool passage lasting for one day. Physical examination of the abdomen showed diffuse tenderness. Laboratory tests showed leukocytosis, hyperamylasemia, and poor renal function. Abdominal computed tomography showed mural thickening with peri-focal stranding in the exhausted descending and sigmoid colon. Ischemic colitis was suspected, but the surgeon hesitated to initiate surgery due to non-specific symptoms. Finally, colonoscopy demonstrated segmental edematous, fragile mucosa with scattered erosions and ulcerations from the rectum to the splenic flexure of the colon. Ischemic colitis of the descending colon, sigmoid colon and upper rectum was proved after surgery. The patient's condition improved after prompt surgery.

1. Introduction

Acute abdomen pain refers to a sudden severe abdomen pain that is less than 24 hours in duration. Many causes including acute appendicitis, acute cholecystitis, acute intestinal ischemia, acute peritonitis, and abdominal aortic aneurysm can be lethal in severe cases, without adequate surgical intervention. Ischemic colitis is the most common form of intestinal ischemia. The typical symptoms include abdominal pain, tenderness around the segment of bowel involved and usually passage of bloodied stools[1]. Most patients for this condition in the generally population are elderly, but easily overlooked. If diagnosis is delayed it can produce significant morbidity or mortality, especially in the elderly.

2. Case report

An 83-year-old woman presented with a history of uremia with regular dialysis, hypertension, peripheral arterial occlusive disease and atrial fibrillation without medical treatment. She also had a history of rectal cancer and had been operated for partial protectomy with right nephrectomy 7 years previously. She had experienced diffuse abdominal pain with bloodied stool passage for one day. She was brought to our emergency room in shock. Physical examination of the abdomen showed diffuse tenderness without muscle guarding or signs of peritonitis. The laboratory tests showed anemia with hemoglobin at 11.5 mg/dL. Leukocytosis with a white cell count of 21,800/μL (band 9%) was noted. Hyperamylasemia of 406 U/L and abnormal creatinine at 3.2 mg/dL were noted. Her state of shock improved after intravenous fluid infusion. Abdominal computed tomography was carried out owing to suspected ischemic colitis and revealed mural thickening and focal fatty stranding in the exhausted descending and sigmoid colon (Fig. 1). Although ischemic colitis was suspected, the surgeon hesitated to initiate surgery because there was no sign of peritonitis and other vital signs were stable. Initially gastrointestinal bleeding, ileus or sepsis were all considered as possible causes by the surgeon. Colonoscopy without much air inflation was scheduled for further evaluation and it demonstrated segmental edematous, fragile mucosa with scattered erosions and ulcerations from the rectum to the splenic flexure of the colon and ischemic colitis was proved (Fig. 2). In surgery, ischemic colitis of the descending colon, sigmoid colon and upper rectum was found (Fig. 3). The pathologic findings

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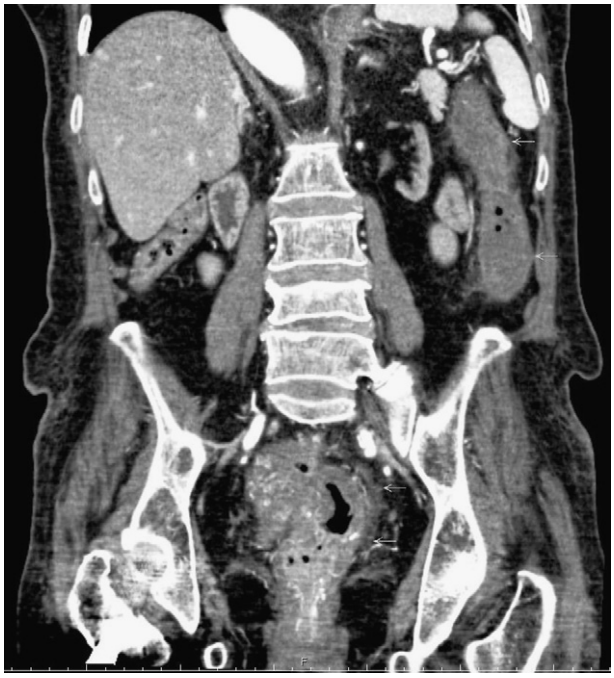

Fig. 1. Wall thickening and perifocal stranding was found in the descending and sigmoid colon. Poor enhancement and paucity of their terminal branches in the arterial phase implied ischemic colitis (arrow).

also proved gangrenous, hemorrhagic, and necrotic with inflammatory exudate in the mucosa and edematous in the submucosa (Fig. 4). The patient's condition improved after timely surgery.

3. Discussion

Ischemic colitis is an ischemic injury to the colon and was first described by Boley et al in 1963. Approximately 90% of ischemic colitis occurs in patients over 60 years old. Many elderly patients

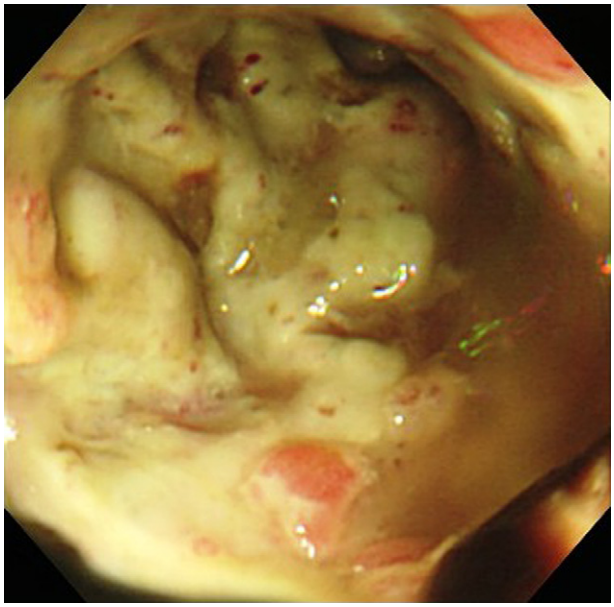

Fig. 2. Edematous and fragile mucosa, scattered erosions, ulcerations, and segmental erythema were found in the affected upper rectum to splenic flexure of the colon.

Fig. 3. The resected specimen showed ischemia and necrosis from the upper rectum to the descending colon.

are misdiagnosed as having other non-urgent diseases such as inflammatory bowel disease or infectious colitis[2]. Severity of ischemic colitis can vary from transient segmental colopathy to fulminant gangrenous colitis and the symptoms are diverse[3–5]. It can be classified into two forms, gangrenous and non-gangrenous. The non-gangrenous form, which can be transient and reversible in about 50% of cases, accounts for 85% of cases of the disease. However, although gangrene occurs only in about 15% of patients, for these urgent surgery is vital[2]. There are severe risk factors of ischemic colitis, such as aging, female sex, hypertension, cardiovascular disease and abdominal operation history. However, elderly patients who are suffering from ischemic colitis are at a higher risk of following the gangrenous course if they have hypertension or a history of cancer[6]. The symptoms of ischemic colitis are varied, depending on the severity and extent of the disease. Most patients have sudden cramped abdominal pain. However, in elderly patients the pain can be mild and located around the affected bowel[2]. In our patient there was a history of heart disease and hypertension and the physician should have suspected gangrenous ischemic colitis when the patient showed acute abdominal pain. The gangrenous splenic flexure of the colon to the upper rectum could have been influenced by the previous abdominal operation. The descending and sigmoid colon seem to be the predominant location of colonic ischemia, occurring in about 50% to 75% of patients[7]. Splenic flexure is involved in about 25% to 50% of individuals[7], whereas rectal ischemia is rare (3%) because of the excellent collateral blood supply of the rectum[8].

Diagnosis of ischemic colitis is sometimes difficult and depends on the symptoms combined with laboratory testing, radiographic images, endoscopy, and pathology. Some laboratory tests for ischemia can be investigated such as leucocytes, alkaline phosphatase, lactate dehydrogenase (LDH), creatinine phosphokinase (CPK), and alfa-glutathione S-transferase. However, none of the

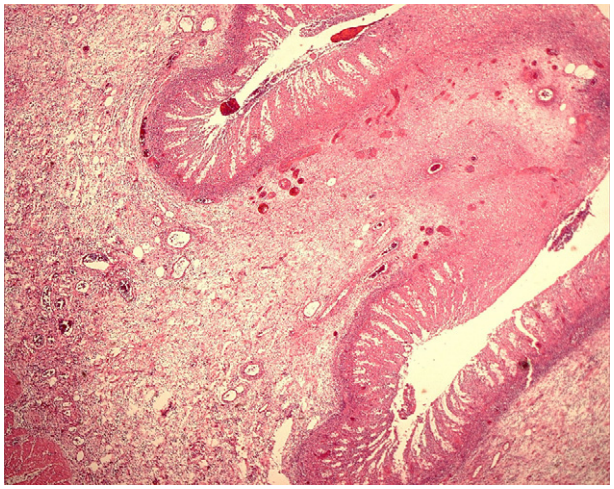

Fig. 4. The mucosa was gangrenous, edematous, hemorrhagic, and necrotic with inflammatory exudate. The submucosa was edematous.

laboratory tests are sufficiently specific to diagnose ischemic colitis[9]. Computed tomography is a good tool for evaluating ischemic colitis, but sometimes leads to misdiagnosis in the early stage. The appearance of the ischemic colitis with thickening bowel wall and heterogeneous enhancement shows a target finding with an enhancement of the mucosal and muscular layers and marked fat stranding[10]. Endoscopy is also an excellent tool for ischemic colitis, it can visualize colonic mucosa and is the gold standard for identification of ischemic colitis before surgery[11]. The treatments for ischemic colitis in the early stage include intravenous fluid, empiric broad-spectrum antibiotics, decompression of the distended colon, and bowel rest; however, surgical resection is necessary as soon as possible in severe gangrenous stages owing to the high mortality rate of about 60%[12]. In laparotomy, the diagnosis is confirmed and all affected bowel is resected to ensure normal surgical margins. In our case, the surgeon hesitated in his surgical intervention owing to atypical presentation of ischemic colitis, and the endoscopic findings provided the adequate evidence. Mortality was avoided after timely surgery and patient recovery well.

4. Conclusion

It is important to distinguish the causes of acute abdomen pain by noting medical history, physical examination, laboratory testing, and image study in our case. Invasive study such as endoscopic examination should be carefully undertaken to prove any unclear etiologies. Ischemia colitis is not rare, but easily overlooked, and high mortality is possible with delayed diagnosis. Physicians, especially in the emergency room, should seriously consider the possibility of ischemic colitis in such a patient.

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